III. ABSTRACT

An apparatus and method for providing confidential viewing of a fundamental image on an image display device utilizing spatial multiplexing image modification, whereby fundamental image components of the fundamental image are spatially multiplexed or combined with appropriately determined inverted image components thereof, and aligned with adjacent display regions/pixels of an image display device so as to neutralize the fundamental image and generate a combined image that appears substantially featureless to the naked eye. The display pixels aligned with the fundamental image components are cross-polarized relative to the adjacent pixels aligned with the inverted image components, thereby providing for extraction of the fundamental image by an authorized viewer wearing appropriate eyewear polarized to correlate with the state of polarization of the pixels aligned with the fundamental image components. Enhanced security may be provided by utilizing a variable polarizer to alter the state of polarization of the respective display regions, or by altering the position of fundamental and inverse image components to align with differently polarized display regions. Extraction of the fundamental image may then be accomplished by using active polarized eyewear synchronized to correlate in polarization with the pixels aligned with the fundamental image components.